(1929). Department.

SERIES.

G.O. No. 1089

DATED 28.6.29

28.6.29

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[Despatch Abstract.]

Industries- sub-soil survey- Bellary Dirka- Progress- Interim report-

# BACK PAPERS.

| G.O. | No. | Department. | Date. | G.O. | No. | Department. | Date. |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

# FURTHER PAPERS.

| G.O. | No. | Department. | Date. | G.O. | No. | Department. | Date. |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

Council Office.

7-2-1929.

Starred Question.

Mr.K.V.R.Swami.

THE DEVELOPMENT DEPARTMENT.

2005. Will the hon.the Minister for Development be pleased to state:-

(a) whether any water deviner was appointed by the Government for sometime;

(b) if so, for what period;

(c) at what salary;

(d) what is the nature of work he was doing during the period he was in service; and

(e) whether ~~the services will be retained~~ the Government proposes to retain him in service permanently?

Development Departme

Council Office.

7-2-1929.

Starred question.

Mr. K.V.R.Swami.

*2005. Will the Hon: the Minister for Development be pleased to state:

(a) whether any water diviner was appointed by the Government for some time;

(b) if so, for what period;

(c) at what salary;

(d) what is the nature of work he was doing during the period he was in service;

Draft Answer.

2005.

(a) Yes.

(b) ~~for~~ nine months;

(c) ~~at~~ Rs.150 p.m. with a fixed t.a. of Rs.25 p.m.

(d) He was employed in connection with the survey of ~~xxxxxxxx~~ underground water by the Industries Dept. in ~~fourteen~~ certain villages ~~of~~ in the Bellary firka. ~~in order to indicate~~ this work consisted in indicating likely sites for boring ~~xxx~~ thereby ~~to be minimised~~ thereby minimising the number of unsuccessful borings. The diviner makes a general survey of the whole area and indicates roughly with the use of his ~~xxxxx~~ divining rod the direction of the underground water courses if any. He also indicates the particular places where the currents are strongest. Such places are carefully marked ~~xxx~~ and subsequently boreholes are out down on the sites.

(e) whether the Government propose to retain his services permanently?

(e) No.

PC
18/2/15.

(The above answer has been approved by H.E. the High Commissioner)

Deputy
21/2

4/ 1519

Legislative Council Question No.2005*(Starred)

Mr.K.V.R. Swami.

Will the Hon'ble the Minister for Development be pleased to state:-

(a)whether any water diviner was appointed by the Government for some time;

(b)if so, for what period;

(c)at what salary;

(d)what is the nature of work he was doing during the period he was in service;

(e)whether the Government propose to retain his services permanently?

---

Develcpment Department.

A N S W E R.

(a) Yes.

(b) Nine months;

(c) Rs.150/- per mensem with a fixed travelling allowance of Rs.25/- per mensem.

(d) He was employed in connection with the survey of underground water by the Industries Department in certain villages in the Bellary firka. His work consisted in indicating likely sites for boring thereby minimising the number of unsuccessful borings. The diviner makes a general survey of the whole area and indicates roughly with the use of his divining rod the direction of the underground water courses, if any. He also indicates the particular places where the currents are strongest. Such places are carefully marked and subsequently boreholes are put down on the sites.

(e) No.

(By order)

Assistant Secretary.

Fort St.George,
20th February 1929.

To the Council Office.

(The above answer has been approved by the Hon'ble Mr.M.R.Seturatnam Ayar)

m.k.r.

(Signed) [illegible]

[illegible]

[illegible]

[

5/

Dev.

7/26.3

OM N° 575 II/49 dt 25.3.49

A copy of L.C.Q N° 1579 with supplementary question and answers thereto is forwarded to the D.I. He is requested to submit a report on the work done by the water diviner during the period of his employment in connection with the Sub Soil survey of The Bellary

RR
25.3.

kkr
25/3/49

To the D.I. with copy of the
answer for p. ✓ 2nd.

R.L. 7/5

b DEPARTMENT.

Dw 1634 11
28.5.29

*Received* ..... 192 . *Registered* ..... 192 .

*Subject.*

Water Diviner - work done - reporting on.

ENCLOSURES.
No .....
.....
Spare copies .....

No. 188-B/29.

*Station* Madras. *Dated the* 25rd May 1929. /02

From (Name) Khan Bahadur M. Bazl-ul-lah Sahib Bahadur, C.I.E., O.B.E.,
(Designation) Director of Industries,

To The Secretary to the Government of Madras,
Development Department

Sir,

b s&rupra

With reference to Memorandum No.575-II/29-1 dated the 25th March 1929, I have the honour to submit a report on the work done by the water diviner during the period of his employment in connection with the survey of underground water in the Bellary District.

(J)

2. In G.O.No.264 Development dated the 13th February 1929, Government sanctioned the employment for a period of six months in the first instance, of a water diviner and M.R.Ry C.P.Garudachala Mudaliar who was appointed to the post actually entered upon his duties on the 12th March 1928. His retention for a further period of three months was sanctioned in G.O.

(J)

b/ G.O.No.5-79 9/13

No.1579 Development dated 20th September 1928 and he was relieved of his duties on the afternoon of the 11th December 1928. Fourteen villages in the Bellary firka aggregating an area of about 101 square miles were selected for the survey and it was intended to put down about 400 borings at the rate of one for every quarter of a square mile on the sites selected by the water diviner.

3. During the nine months he was engaged, the water diviner was able to select 107 sites in the undermentioned eight villages against a total of 400 boreholes originally intended to be put down in all the 14 villages comprising the survey.

| | |
|---|---|
| (1) Bisalahalli | 15. |
| (2) Beevanahalli | 8. |
| (3) Haddinagunda | 11. |
| (4) Sridaragadda | 32. |
| (5) Sanganakallu | 16 |
| (6) Gonehallu | 12 |
| (7) Kolegala | 10. |
| (8) Bellary | 3. |
| | 107. |

The Water Diviner does not indicate the quantity or quality of the water likely to be met with or the depth at which water is likely to be struck, but he indicates with the help of his divining rod the sites where water is likely to be tapped, thus minimising unsuccessful borings. In addition to the selection of sites the water diviner has marked out the underground water courses in Bisalahalli and a portion of Sangahakallu and a map of these water courses has also been prepared. Of the above 107 sites selected, borcholes ranging from 40 to 165 ft. in depth have been put down in 53 sites and 14 borings are now in progress. The great majority of the boreholes, have struck water in a greater or less degree, the number of unsuccessful borings being about 10%. Considering the nature of the area selected for the experimental survey and the great scarcity of water which existed even for drinking purposes, this result may be considered

satisfactory.

4. Beyond relieving water scarcity in an extremely parched area and yielding some results of local application, the survey operations so far undertaken do not seem to have yielded any effective data likely to be useful in locating underground currents in adjoining areas or in similar areas elsewhere; and it is a question whether in the circumstances, it is advisable to proceed with the survey of the remaining villages. I have asked the Industrial Engineer to take stock of the results so far obtained and let me know definitely whether the survey of the remaining villages is likely to serve any useful purpose. I shall review the whole position on receipt of his report and submit a report to Government in the matter.

I have the honour to be
Sir,
Your most obedient servant,

for Director of Industries.

G.M.

C.F. 80.

DEPARTMENT.

Dev. 1790 II
15-6-29

*Received* 15 JUN 19 ) 192 *Registered* 192

*Subject.*

Underground Water Survey, Bellary - Submitting interim report on the progress of work.

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ENCLOSURES.
No .....
.....
Spare copies .....

No. 609-B/28

*Station* Madras *Dated the* 8th June 1929

From (Name) Khan Bahadur Muhammad Bazl-Ul-Lah Sahib Bahadur, C.I.E., O.B.E.,

(Designation) Director of Industries

To The Secretary to the Government of Madras,

Development Department.

Sir,

I have the honour to submit the following interim report in regard to the prosecution of the experimental survey of underground water in the Bellary District.

2. Scarcity of drinking water and absence of irrigation facilities in certain districts led to the consideration of proposals for carrying out an intensive survey of underground water supplies in the Presidency and in order to collect data with a view to ascertaining whether such a survey would be effective in locating underground currents, Government ordered, in G.O.No.264 Mis.Department, dated 13th February 1928, the carrying out of an intensive survey of underground water in the

Bellary taluk. This tract was selected since, apart from the fact that the Bellary Taluq is notoriously deficient in tanks and wells and singularly liable to drought, there is to be found in the Bellary firka, unlike other similar areas, an alternation of black, red and mixed soils and experiments conducted in such a tract would, it was thought, be likely to yield more useful data as to the quality of water and the depth at which water could be found in such soils. A boring party equipped with two power drills and twelve hand boring sets and the staff necessary to work them was sanctioned for a period of one year. A water diviner was also associated with the work for a period of nine months with effect from the 12th March 1928 with a view to minimising the number of unsuccessful borings. Fourteen villages in the Bellary firka embracing an area of about 101 sq.miles were selected for the survey and it was intended that borings should be put down at the rate of one for every quarter of a sq.mile.

3. The operations were actually started on the 28th March 1928 but in the initial stages the progress of the work was hampered by the prevalence of plague in most of the villages and by the difficulty experienced in recruiting labour to work the boring apparatus. During the period of nine months in which the water diviner was engaged, he selected 107 sites as suitable for borings in eight villages viz., (1) Bisalahalli (2) Beevanahalli (3) Haddinagunda (4) Sanganakal (5)Sridaragadd (6)Gonahalle (7) Kolagal (8) Bellary. In addition to the selection of sites, the water diviner has also marked out in Bisalahalli village and a portion of Sanganakal the direction of underground water courses as indicated by the divining rod and a map of these water courses has been prepared. A contour map showing the physical features of the area and also sections of underground strata indicating roughly the depth, inclination etc., of sub strata have been prepared by the surveyors attached to the party.

4. Of the 107 sites selected for boring, boreholes have so far been put down in 53 sites and fourteen borings are now in progress. The deepest boring put down so far is 165 feet and the total number of feet bored through is about 4,200 ft. With a few exceptions, all the boreholes have tapped water in a greater or less degree, varying from two to as much as fifteen gallons a minute, and considering the fact that the area comprising the survey suffers from great scarcity of water even for drinking purposes, a borehole yielding even so little as one gallon a minute of drinkable water can reasonably be regarded as a success. The number of unsuccessful borings is about 10% per cent.

5. The survey conducted so far reveals that the whole area is underlain with hard granite rock below 30-40 feet. There is generally a mantle of disintegrated rock varying in thickness from 5 to 10 feet in which a certain amount of water is always found. The bed rock which is extremely hard is not fissured to any great extent and the water supply obtained therefrom is generally good and drinkable. The results obtained go to show that where the surface soil is typically jet black cotton soil, the water tapped underneath is always brackish but where it is lighter in colour and contain considerable quantities of gravel, the water found underneath is generally less brackish. If the soil is red or of light sandy colour or gravelly in substance, the water tapped therefrom is generally drinkable. It is possible that if a borehole is sunk sufficiently deep through bedrock and the surface water is shut out, drinkable water could be obtained even in black cotton soil. This experiment is now being made. The results of the operations so far show that the subsoil conditions met with in several of the villages are more or less uniform except for undulations. Several samples of water obtained from the boreholes have been analysed by the Principal, Leather Trades Institute, and valuable data as to the quality of water and the depth at which water could be found under conditions prevailing

in the Bellary District have been collected and in areas where geological conditions are more or less similar, these data may be considered to be of general application. As the results obtained so far are more or less uniform, I do not consider it necessary that the remaining villages not yet traversed by the water diviner should be surveyed, particularly as there is an urgent demand elsewhere for the drills which would be set free. I propose therefore, subject to the approval of Government, to terminate the operations as soon as borings have been put down in the remaining 40 sites selected by the water diviner. The expenditure required in connection with this work can be met from the allotment for the current year for the District Engineering Branch.

6. The experience so far gained goes to show that in surveys of this nature, the association of a geologist with the survey party would obviate the necessity for borings on an intensive scale. As explained in my letter No.609-B/27 dated 4th February 1928, the geologist would indicate the existence, extent etc., of water bearing strata in the region to be surveyed. His obse vations would be checked by means of a comparatively small number of borings and definite data obtained in regard to the nature, depth, thickness and capacity of the water bearing strata in the region. Thus an extensive area could be surveyed at reasonat cost and within a reasonable time.

7. A final report embodying in detail the results obtained and the conclusions arrived at will be submitted on the completion of the work.

I have the honour to be,
Sir,
Your most obedient servant,

for Director of Industries.

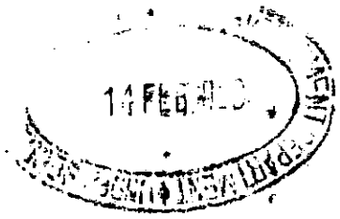
Law Dept. III-8—3,000—3-12-27.

QUESTION.—No. 2005

the meeting of the Legislative Council ~~to be held on the~~

SUBMITTED that two copies of this Question may be forwarded to the Development Department.

The Question has been admitted.



14/2/29 U.O. 1 , dated

To

The Development Department.

Development Department.

To A.S.

Please see the starred Legislative Council question in the c.f. A draft answer is submitted for approval.

16/2/29 The answer to question (This is attended to Divisional forecasts is explained in the P.W.D. Dy. No. 1012 G. for No. 1579 dt. 20.2.29.

18/2/29

20.2.29

*Work done by the water diviner.*

* 1519 Q.—Mr. K. V. R. Swami : Will the hon. the Minister for Development be pleased to state—

(*a*) whether any water diviner was appointed by the Government for some time ;

(*b*) if so, for what period ;

(*c*) at what salary ;

(*d*) what is the nature of work he was doing during the period he was in service ; and

(*e*) whether the Government propose to retain his services permanently ?

A.—(*a*) Yes.

(*b*) Nine months.

(*c*) Rupees 150 per mensem with a fixed travelling allowance of Rs. 25 per mensem.

(*d*) He was employed in connexion with the survey of underground water by the Industries Department in certain villages in the Bellary firka. His work consisted in indicating likely sites for boring thereby minimising the number of unsuccessful borings. The diviner makes a general survey of the whole area and indicates roughly with the use of his divining rod the direction of the underground water-courses, if any. He also indicates the particular places where the currents are strongest. Such places are carefully marked and subsequently boreholes are put down on the sites.

(*e*) No.

Mr. D. Narayana Raju :—" May I know how far the services of the diviner during the past have been helpful to the department and whether he has been able to correctly divine the source of underground water-supply or not ? "

The hon. Mr. M. R. Seturatnam Ayyar :—" Notice, Sir."

Diwan Bahadur R. N. Arogyaswami Mudaliyar :—" May I know whether any appreciable results have accrued from the experiments conducted by the diviner ? "

The hon. Mr. M. R. Seturatnam Ayyar :—" Notice, Sir."

Dr. B. S Mallayya :—" May I know what the qualifications of this diviner are ? Was he trained in any Government institution ? "

The hon. Mr. M. R. Seturatnam Ayyar :—" He is a retired Forest Officer knowing something of divining."

Dr. B. S. Mallayya :—" May I ask how many borings were successful and how many were unsuccessful ? "

The hon. Mr. M. R. Seturatnam Ayyar :—" Notice, Sir."

Diwan Bahadur P. C. Ethirajulu Nayudu :—" Will the Government be pleased to place a record of the actual work done by this diviner on the table of the House ? "

The hon. Mr. M. R. Seturatnam Ayyar :—" Yes, Sir."

Mr. K. V. R. Swami :—" May I ask whether we cannot retain the services of this man ? "

The hon. Mr. M. R. Seturatnam Ayyar ;—" His services have already been terminated."

Mr. C. Ramasomayajulu :—" Why ? "

The hon. Mr. M. R. Seturatnam Ayyar :—" His term of appointment has already expired."

Mr. C. Ramasomayajulu :—" May I ask whether we cannot appoint him again ? "

The hon. Mr. M. R. Seturatnam Ayyar :—" If there is necessity, we will do so."

Dev Dept.

As

with reference to the promise made by Mr at A in the supplementary questions and ans above, the D.T. may be requested to send a report

16

on the actual work done by the water diviner during the period of his employment as such in connection with the sub-soil water survey in the Bellary Dt. A draft O.M. is submitted.

Ker 30/5/29

RC 31/5

O.M.No.575 II/29-1, dated 25th March 1929 to the D.I.) p 3 c/f

From the D.I. No.~~1888~~ 188 B/29, dated 23rd May 1929) pp 6–9 c/f

To A.J.

Please see the reply from the D.I. at pp. 5-8- c.f. A draft note on the water diviner for being placed on the table of the Legislative Council is submitted for approval. } approved with notes for marked A at p 2 ante

Please see para 4 of the Director's letter at p 8 c/f. The further report promised may be awaited } yes with 2 ans (Chemical pp) JJ

Ker 1 Bal

RC 2.6.

M 6.6.

J. 7.6

Pse sig

ai 7/6 8/6.

Pr 8/6/29

M 12.6.

Pres 12/6/29.

#17

Dear Dyal

Do. No. 575-II/29.2 dt 16-6-29

Dear Mr Bagchi-Lal,

I am directed to invite a reference to the Conclusion of Govt official letter No. 1888 T/29 dated 21-5-29 regarding the work of the water diviner employed on the sub soil survey in the Bellary district and to state that the Hon Minister for Development wishes to have a note briefly setting forth the progress and the results achieved up-to-date of the sub soil survey carried on in the Bellary taluka. I am therefore directed to request you to send a note on the subject as early as possible and in any case not later than the 20th instant positively.

Yours sincerely,

VS/16 RR 14/6.

Dispatched 14/6.

18

V.E

Pages 9–12 only

The interim report submitted by the Director of Geol. on the Survey of underground waters in the Bellary district is submitted for Secretariat. Hon. M. wanted this report for the information of the Govt.

I have seen the report. Should it be sent to the E. also for Secretariat Dept. Notes 24.6.

In para 5 of his letter, the D. I asks for the orders of Govt. for the termination of the work as soon as the borings in the 40 bores are completed / indicated by the Director. The Govt. may approve of the proposal.

RR
19.6.

M. 24/6

V.E

Put up

RR
20.6.

Approved
Notes
24.6.

Draft order is sent.

RR
24.6.

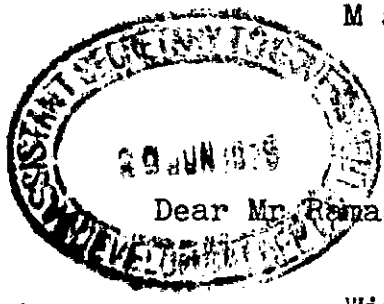
27.6.

19

D.O.188-B/29. Office of the Director of Industries,

Madras, 17th June 1929.

Dev 7842 2/29
12-6-29



Dear Mr. Ramasami,

With reference to your D.O.No.575-II/29-2 dated the 14th June 1929, I write to inform you that I have already sent an official report on the work of the water diviner employed on the sub soil survey in the Bellary district in my letter No.609-B/29 dated the 8th June 1929 and I await Government orders thereon.

Yours sincerely,

for 24/1.

M.R.Ry R.Ramasami Ayyangar Avl.,
Assistant Secretary,
Development Department,
Stonehousehill, Ootacamund.

<20

Scott. M-5 (b)—12,004—6-11-28.

| | Date. | Initials. |
|---|---|---|
| When received for Fair-copying. | | |
| When copied .. | | |
| When examined .. | | |
| When signed .. | | |
| When despatched .. | | |

Development DEPARTMENT.

Industries - Sub-soil survey - Bellary firka - Progress - Interim Report.

x Repeat
D.C.P. — Sub Soil Survey - water drawn - wells - Report

READ AGAIN G.O. No. ..... , dated ..... 192 .

" " " " ..... " ..... 192 .

*READ ALSO*:—

C. No. ~~From the~~ O.M. to the D.I. , No. 575-II/29-1 dated 25-3-29 192

" " From the D.I. " 188-B/29 " 23-5-29 192

" " " " D.I. " 609-B/28 " 8-6-29 192

ORDER.

No. 1089 dated 28-6-1929

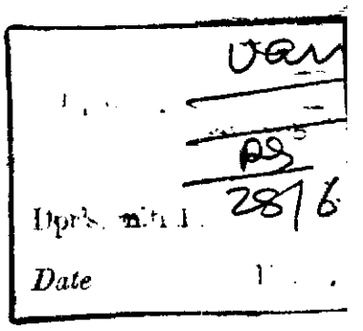
Misc.

The Government approve the proposal of the Director of Industries in para.5 last of his letter read above that the experimental survey of the under ground water in Bellary firka should be terminated as soon as borings have been completed in the 107 sites selected for boring by the water diviner in the eight villages mentioned in para.3 of the letter. The final report should

as early after the completion of

the work as possible.

To the Director of Industries.



S.R. 3.9.29 W.E. 2

G.F. 30.

DEPARTMENT.

Dev 2615

3.9.29

*Received* ..... 192 *Registered* ..... 192

*Subject.*

ENCLOSURES.

No. .....

.....

Spare copies .....

No.

*Station* MADRAS, *Dated the* 3rd September, 1929.

From (Name) M.R.Ry., Dewan Bahadur A. Appadurai Pillai Avl., M.A.,

(Designation) Director of Industries,

To The Secretary to the Government of Madras,

Development Department.

Sir,

In continuation of this office letter No. 609-B/28 dated the 8th June 1929, I submit the following report on the further progress of the experimental survey of underground water in the Bellary District.

2. Of the 107 sites selected by the Water Diviner as suitable for boring in 8 of the 14 villages selected for the survey, boreholes have so far been put down in 76 sites. Of the remaining 31 sites, 12 are in red soil and 19 in black cotton soil and I expect that the boring operations would be completed in about three months. The depth of the boreholes varies from 30 to 165 feet, the average being 58' and the total number of feet bored is

5084. Please see the detailed statement attached. Out of the 76 borings put down, 51 proved to be successful, 5 were discontinued since water was not tapped in them even at 40 to 50 feet underground, 20 were classed as failures, since supply in them was less than a gallon a minute. Of the 51 successful borings absolutely fresh water has been tapped in 26 borings, as for the water tapped in the remaining 25 borings, the results of the Chemical analyses are not complete.

3. It is well known that the villages selected suffer from scarcity of water both for drinking and agricultural purposes and they generally depend upon the precarious supply from a few 'cheruvus' or tanks and excavations in the beds of vankas or natural drainage channels. The supply obtained from these sources is quite adequate to meet the needs of the villagers even for drinking purposes; the wells or bavis generally dry up in summer and the villagers suffer greatly from drought. The boring operations conducted by this department have shown that the water supply in the villages concerned can be considerably improved. A number of boreholes have been put down in the selected villages close to residential quarters on the sites marked by the Water Diviner and in a majority of them water has been found in capacities varying from 2 to 15 gallons a minute. Of the boreholes put down, some are in red soil, some in light black cotton soil and in some in black cotton soil. The following are a few typical boreholes put down which clearly indicate the scope for improving the water supply in the villages concerned.:-

| Name of village. | Survey No. of the borehole. | Distance from residential quarters. | Remarks. |
|---|---|---|---|
| Bisalahalle | 184 | 1/2 a furlong | Yields a good drinkable water at the rate of 4 gallons per minute. It is suitable for well sinking or installing a handpump. The borehc- |

cotton soil the water tapped is brackish. The results of the boring operations have also shown that there is a possibility of obtaining water sufficient for the irrigation of about 5 or 6 acres of land from wells sunk round some of the successful boreholes in the villages.

6. On the suggestion of the Director of Agriculture, proposals have been submitted separately for the sanction of Government, to sink two typical wells at a cost of Rs.2,000/- each in the area surveyed by the department with a view to obtain accurate data by actual demonstration as to the quality or quantity of water that could be obtained from wells in the area, the depth to which such soils could be sunk, the most economical way of lifting water from wells and other particulars.

A further report will be submitted on the conclusion of the boring operations.

Director of Industries.

K 27

Statement showing the number of borings put down, feet bored etc., in each village of the survey so far taken up.

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| Name of village. | No. of borings put down. | Total depth bored in the village. | Average depth of boring. | Highest depth bored. | Lowest depth bored. |
|---|---|---|---|---|---|
| (1) Bellary | 3 | 278'-0" | 92'-8" | 165'-0" (P.D.IV) | 50' - 0" |
| (2) Bislahalli | 15 | 1008'-3" | 67'-3" | 121'-6" (P.D.I) | 37'-0" |
| (3) Beevanahalli | 8 | 451'-2" | 56'-5" | 125'-4" | 30'-0" |
| (4) Haddinagundu | 11 | 622'-4" | 56'-7" | 79'-6" | 40-6" |
| (5) Sanganakal | 16 | 824'-7¼" | 51'-7" | 91'-7" | 14¼" |
| (6) Sridaragadda | 23 | 1847'-6" | 80'-4" | 111'-0" | 35'-6" |
| Total number of borings ... | 76 | 5031'-10¼" | | | |

Development Department.

MEMORANDUM NO.2147-II/29-2, dated 5th September 1929.

Ref: Correspondence ending with Director of Industries letter No.nil, dated 3-9-1929. Experimental survey of sub-soil water - Bellary Firka - Progress Report.

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The Government observe that, from the experience so far gained, it is clear that only brackish water can be tapped from the bore holes put down in sites under black cotton soil and they consider that fresh borings in such sites should not be put down. The Director is requested to instruct by telegram the officer in charge of the sub-soil survey operations at Bellary not to start or proceed further with work on the remaining 19 sites indicated by the water diviner in black cotton soil. Further work should be confined only to the twelve sites in red soil and a report submitted as soon as the work is completed on these 12 sites.

R.Ramaswami Ayyangar,
Assistant Secretary to Government.

To the Director of Industries, Madras.

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F o r w a r d e d.

(By Order)

Despatched by spl. Messenger. 2.P.M. 7/9/29.

o/c.

SUPERINTENDENT.

C.F. 30—10,000—7-8-26.

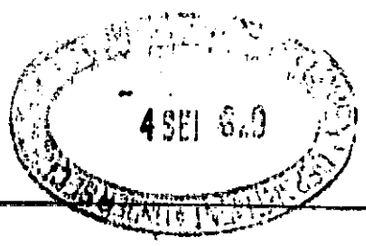
DEPARTMENT.

D No 20-E
4.9.29

*Received* ..... 192 . *Registered* ..... 192

*Subject*

Sub soil Survey - Bellary Firka - sinking of two wells -in typical places - requesting sanction of Government to incur an expenditure Rs.4000/-



ENCLOSURES.
No. .....
.....
Spare copies .....

No. 609-B/28

*Station* Madras ....., *Dated the* 31st August 1929. 192 .

M.R.Ry.

From (Name) Dewan Bahadur, A. Appadurai Pillai, Avl., M.A.,

(Designation) Director of Industries, Madras.

To The Secretary to the Government of Madras,

Development Department.

Sir,

It has been already reported to Government in this office letter No.609-B/28 dated the 8th June 1929 that the majority of the boreholes put down by this department in the area selected for the survey in the Bellary taluq have tapped water supplies varying from 2 to 15 gallons a minute. It is intended that these boreholes should, whereever possible, be utilised for extending irrigation facilities and for provision of drinking water supplies in the areas concerned. The ryots in the locality have been advised to sink wells round the successful boreholes already put down by the department and though a few have expressed their willingness to do so they have not

taken any steps in this direction so far. It has been suggested to me by the Director of Agriculture, and I agree with him, that one or two wells should be sunk by Government in typical palces within the area surveyed with a view to obtaining accurate data as to the average cost of sinking wells in the area, the amount of water that can be tapped in such wells during the different seasons of the year, the average depth to which they should be sunk and the most economic way of lifting water from them. These data would be helpful in framing proposals for improving the watee supply throughout the area both for drinking and for agricultural purposes. I propose, subject to the approval of Government, to sink two wells, one round a borehole yielding 10 - 15 gallons of water and another round a borehole yielding 2 - 5 gallons a minute. The Industrial Engineer estimates that the cost of sinking two wells and testing them would be about Rs.4000/- . I request that the sanction of Government may be accorded to incur this expenditure which will be met from savings in the current year's allotment for the District Engineering Branch.

for Director of Industries.

M.Md.A.2/9

No 31

Secy-Dr

25/1929

Secy 19/9/29 20/1929 [illegible]

O.M No 2147/E/29-3 dt 19.9.29

[Type. Correspondence ending with D-2's letter No 6019-05/28 dt 31.8.29 Sub. Soil Survey. Ashany Tirka. Sinking of two wells in typical places].

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In continuation O.M No 2147/E/29-2 dated 5.9.29, the Director of Industries is informed that the question of sinking two wells in typical places may be raised when the final report embodying in detail the results obtained and the conclusions arrived at in connection with the Survey ~~[illegible]~~ is submitted to the Govt. ~~The Director of Industries requested that~~ If the Chittagong Local Boards or well-to-do ryots could be induced to sink ~~two typical wells, one each~~ in the Chittagong & Noakhali districts, the required could be necessary data ~~would be obtained~~ from Sahibs collected in the course of construction of such wells.

RR
19/9.

Van

Date 192

To

Director of Industries

D.O.
18.9.29

Copy of letter from the President, District Board, Bellary, dated the 6th November 1929, to the Hon'ble the Minister for Development.

****

Subject:- Co-ordination of actitities urged between the Local Boards and the Industrial Department (Boring section) ~~and the Department of Agriculture (Agricultural Exhibition and Demonstration)~~.

---

I complained at the Local Boards' Conference held at Saidapet that there is no co-ordination between the Development Department and local boards and instanced the boring operations carried on in Bellary district. [The persons in charge of the said operations do not consult the local bodies and the consequences are that wells are sunk where they are not wanted and no wells are sunk at places where they are wanted.] Some of the wells sunk are left to take care of themselves. They are not amplified and rivetted. They are practically abandoned. The Hon'ble Chief Minister said that he would bring this to your notice.

xx xx

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[Is this so? What is the procedure now?]

M.R.S.
7-11-1929.

C.F. 3(

345

DEPARTMENT.

D 3971-II
10.12.29

*Received* ..... 192 . *Registered* ..... 192 .

*Subject.*

Sub-soil Survey - Bellary firka - final report.

ENCLOSURES.
No .....
.....
Spare copies .....

No. 609B/29

*Station* Madras, *Dated the* 7th December, 1929

From (Name) Dewan Bahadur A. Appadurai Pillai Avl., M.A., M.R.Ry.,

(Designation) Director of Industries,

To The Secretary to the Government of Madras,

Development Department.

Sir;

Reference:- Government Memorandum No. 2147-II/29-4 dated 20th November 1929. — P 12 auth

---

The survey work would have been nearly completed by now if the 14 boring plants which were engaged in the operations had been retained there. On receipt of Government orders to abandon borings in black cotton soil, nine out of the fourteen plants engaged in survey operations were removed for urgent work elsewhere. The work is being continued with 5 plants only. Of these three boring sets

35 44

are engaged in Kolagallu and two in Gonohal. The work on which they are engaged will take at least four weeks more to complete, assuming that each borehole has to go 100 ft. There are four boreholes yet to complete and these will take at least six weeks with four boring sets. The Industrial Engineer expects to complete the work in about ten weeks' time and the final report on the survey will be submitted to Government by about the 15th February 1930. I request that time may be granted until then. In the matter of boring we have to proceed on uncertain data and it is not possible for us to estimate accurately the amount of work involved or the duration the work would last.

2 | 2

2. As regards the remark of the President, District Board, Bellary that some of the wells sunk are abandoned and are not rivetted or amplified, I submit that this department has not sunk a single well in the survey area. The question of rivetting them does not therefore arise. It has been my endeavour ever since I joined the ~~post~~ dept to bring the departmental officers in touch with the Local Self Government and other officials in the district. I shall see that greater coordination between the local boards and Engineering section is brought about in course of time.

Director of Industries.
7/12/28

A.D.7-12.

15
26
5

Dev Dept.

OOC No. 2147/Dep-5 dated 11-12-29

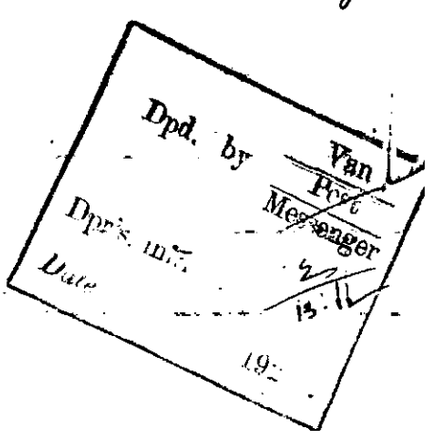
Ref:- Letter from the Dy., No. 609 B/28 dated 7-12-29

Sub:- Sub-soil survey - Bellary fort.

In the circumstances reported by the Director, He has permit him to submit his final report on the sub soil survey in the Bellary fort not later than the 15th Feb 1930.

KR
11.12.29

In the Dir. of Industries
11-12-29



Secretary Development Department.

I should like to see any papers and progress reports relating to the boring experiments now being carried on in the Bellary district.

22-7-1929.

Go No 1089, mis. dev dated 28-6-29 which contains two preliminary reports on the boring experiments; is put up below. A final report has also been called for from the Director - Instructions on this Go.

This survey party has, I believe, now been working for over a year. So far as I could see, not the slightest advantage had accrued to any one from its operations. Numerous boreholes have been sunk mainly in the black cotton soil: and we are told that so many gallons of water per minute were found. The only case in which these results have been utilized was I understand that of a ryot who put a pump on the borehole and managed to get a certain amount of water for drinking. These wells are sunk anywhere sometimes as much as two and even

three miles from a village I believe. Now it is well-known that the villagers will not go a mile or two miles or three miles for their water and that they certainly will not grow garden crops a mile or two miles or three miles from their villages. A garden crop requires to be carefully fenced, is expensive cultivation and needs to be under a man's own eyes. One should have thought that these elementary facts were known even to the Industries department. The result is a very large waste of money. These boreholes cost from, I think I am right in saying, Rs.500 to as much as Rs.1,300 each. Few ryots can afford to spend so much even on a well. I was told that to construct a well suitable for irrigation over the site of one of these boreholes would cost anything, say from Rs.2,000 to Rs.4,000 and more and that it might irrigate from five to ten acres.; that is to say, assuming that everything went perfectly satisfactory, that the anticipations of the water supply were realised, and that the water was not brackish. The fact is that any profit on a crop would in nine cases out of ten be more than swallowed up in the interest on the capital sunk. I could quite understand this party being used to see if they could improve water supply in villages where it is defective and I think it should at once be reorganized on that basis. The ryots, as far as I could make out, showed not the slightest interest in proposals for irrigating their black cotton soil or the slightest intention of utilizing such indications as the survey party had given. If the party were diverted to seeing whether water can be found in the immediate neighbourhood of villages which are badly off for both those of caste people and of the depressed classes, we would have some chance though none too bright of justifying our outlay. At present our

37/218

money is being wasted. This party would of course have gone on digging boreholes for years. As far as I can make out, no one has taken the slightest trouble to study the question or endeavoured to study the question or to keep the party right. It is no doubt doing what it was told. I can only hope for the speedy end of a system in which a matter so intimately requiring that general knowledge and experience of a district which the Revenue establishment has is so zealously kept out of its reach. I should like H.E. to see this note.

27-7-29.

Submitted JVR 29.7

cd 31.7.29
RD 6.8.29

M3 M.P.S. 1-8-29

H.E. This was one of the late Ministers hobby. We found report shewed Contractor from the first got into petty delay & this have dug claim when appointed Forge. 4/8

Please ascertain recently when he did with final his report. If he can not find a final report immediately, a report to this work due required in a week.

JVR 15

Dev.Dept.

D.O.No. 2147-5/29-1 dated 2 9-29.

Dear Mr.Appadurai Pillai,

In a telephonic message of 7th August you were requested to send within a week a report on the work so far done on the survey of underground water supply in the Bellary District. In a subsequent message of 8th idem, you were asked to send some particulars when forwarding the report called for in the message of the previous date. On the 12th August a further message was sent to you asking that the report be sent within a week. Though on the 23rd August you expressed a hope to send the report within a week, it is regrettable that it has not yet been received. ~~been found possible for you to send it~~. The Government are anxious to have a report at the earliest practicable date and I am to request that a report be sent immediately.

detailing as completely as possible the work done up to end of August 1929 and explaining what work still remains to be completed and when it is hoped to finish it.

Yours sincerely,

M.R.Ry.Diwan Bahadur,
A.Appadurai Pillai, Avl., M.A.,
Director of Industries.

4/8/28

D.O.No 609B/28. Dev 265 I E
5.9.29

Office of the Director of Industr

M a d r a s, 3rd September 1929.

Dear Mr.Ramamurti,

Your D.O.No.2147-II/29-1 dated 2nd September 1929.

Survey of underground water supply in th Bellary District.

I have handed over the report to you in person. The delay in sending up the report was contributed by the Assistant Industrial Engineer, Bellary and by the office of the Industrial Engineer, Madras. I am taking due notice of the conduct of the subordinates concerned and shall take steps calculated to avoid such delay.

Yours sincerely,

S.V.Ramamurti Esq.,
M.A., I.C.S.
Secretary to Government,
Development Department.

47 11-26

(iii) Sanitary Engineer (whose duty is to encourage boring for water supplies) and

(iv) also published in the villages concerned.

3. The villages selected for experimental survey are those which suffer from scarcity of water for drinking and for agricultural purposes. Boreholes are put down by the department only at places indicated by the water diviner as likely to yield some supplies. A number of boreholes have been put down near residential quarters and water has been found in a majority of them. It is for the villagers and local bodies to whom the data are supplied by the Industries Department to take steps to use them for augmenting supplies for irrigation purposes and for well sinking for drinking water. It is not clear how many of these sites which still remain to be bored are in the neighbourhood of rivers or vankas. The survey is drawing to a close and it is for consideration whether at this stage the sites indicated by the diviner should be abandoned if they are not near rivers or vankas and new sites selected.

All the twelve remaining sites on red soil are likely to give good supplies for drinking purposes. If the Government wish to take up the question of improvement of water supply for drinking purposes, the Sanitary Engineer will have to take the requisite action and a few of the boring plants may be placed at his disposal, if necessary.

4. The D.I. has addressed (vide pages 8-9 c.f.) Govt. for sanction to the construction of two wells at Government cost in typical places with a view to obtaining accurate data as to average cost of sinking wells in the area, the amount of water that can be tapped in such wells during the different seasons of

48 12 ,57

the year, the average depth to which they should be sunk and the most economical way of lifting water from them. It is estimated that this proposal will involve a non-recurring cost of Rs.4,000. The D.I. says ~~it~~ this sum can be found by reappropriation. For orders.

RS
11.9.

S. It seems to me that it is too late to reexamine the advisability of the remaining 12 sites. The Survey was started for having an idea of underground supply of water. It is drawing to a close & may be completed

A

Shapee
M.R.S

The question of digging the wells may be raised after D.I. when he sends a report on the Survey. Certain Local Boards or Villagers with dig at least a couple wells & then may have no need for Govt to dig them.

A

SVR
13/9

M.3

M.R.S
14-9-57

5) 4750

remarks on the deputation made by the President of the Belfast Dist. Board & draft D/L. is submitted.

12/11/29

In the course of the Experimental Survey in Belfast, the putting of boreholes has proceeded closely the indications of likely places given by the water diviners and there was no room for consultation with the local body except for the purpose of utilizing the water tapped as the boreholes were sunk in accordance with the directions of the diviners. The full Depth cannot be blamed if the local bodies have not made proper use of the data furnished to them by the boring parties.

The O.M. may however go to the D/L [illegible] of this note by the Hon M3.

RR
12.11

S.

The places where borings were [illegible] were selected by a water diviner as his object by the work was a Survey of underground water supply & not the utilisation of individual boreholes. The Local Bodies if consulted could have given no useful information as to where borings were to be made. There is no ground for complaint against the Industries Department in regard to the selection of places for boring

5/12/29

The D.? may offer his remarks as requested by Director. The Govt previously stated that the D.S was to be in charge of the Soil Survey for work..

The O.in may see

SR
13.11

~~Director~~
Secy

rec'd 13.11.29.
Rod 20.11.29.

M3 Mins 20.11.29

K
20/11

Pl. see file

JR
1-11

[Issued as Ord No. 2147 Rep. 4 dated 20/11/29] pp 12 C.
[from the D?, No. 609-Rep dated 7th Dec 29] pp 13-14 C.

Dr Hs

Submitted for perusal and orders.
The Director requests that time may be granted till the 15th Septr. 1930 to submit the final report on the Soil survey in Bellary. pp 14 C.

RS
10.12.29

RS
10.12.S.

SR
11/12

Dr Hs

Draft Ord is submitted.

Draw
RS
11.12.

Final Report dealt with separately in Dept.

Issued as Ord No. 2147 Rep. 5 dated 11-12-29 pp 15 C.

CRB

"Please attach these
papers with Sr no.

10 89 Rev

28/6/25

Dev Depa.

n Secy.

his letter at Pp 1-2 Cf.
llabarama Ayyar makes
~~this suggestion~~
e number of admissions
icultural College should
d to at least 80 a year)
et a certain percentage
pointments in the Revenue
t should be given to Graduate
cultural College who are also graduates in Arts
ards (1) it is submitted that
sting conditions it will not be
increase the admissions
volve construction of additional
es hostel accommodation and
f teaching staff)
cond request is one for consideration
to whom the case may be
~~will now be seen that the~~
~~Secy and at Pp 1 Page~~
~~that maybe noted that in~~
~~be doubtful~~

C F 32.

In reply, please quote number, date and short title.

DEPARTMENT.

Received 3 JUL 1929 Registered Dec. 25

From (Name) The Director of Industries,

(Designation)

Post Box 432., (Station) M a d r a s.

*Telegraphic Address* Dindustry.

To The Secretary,
Advisory Committee for Agriculture,
Fort St.George, Madras.

*No.* 609-B/28., *dated* 25th June 1929..

Sir,

Enclosures 1

Spare Copies

I have the honour to forward herewith a copy of my preliminary report to Government on the experimental survey of underground water now in progress in the Bellary District and request that it may be placed before the next meeting of the Advisory Committee.

I have the honour to be

Sir,

Your most obedient servant,

for Director of Industries.

2/

Copy of the preliminaryreport to Government on the experimental survey of underground water now in progress in the Bellary District.

...

Underground water survey, Bellary - submitting interim report on the progress of work.

...

I have the honour to submit the following interim report in regard to the prosecution of the experimental survey of underground water in the Bellary District.

2. Scarcity of drinking water and absence of irrigation facilities in certain districts led to the consideration of proposals for carrying out an intensive survey of underground water supplies in the Presidency and in order to collect data with a view to ascertaining whether such a survey would be effective in locating underground currents, Government ordered, (in G.O.No.264 Mis.Development, dated 13th February 1928,) the carrying out of an intensive survery of underground water in the Bellary taluk. This tract was selected since, apart from the fact that the Bellary Taluk is notoriously deficient in tanks and wells and singularly liable to drought, there is to be found in the Bellary firka, unlike other similar areas, an alternation of black, red and mixed soils and experiments conducted in such a tract would, it was thought, be likely to yield more useful data as to the quality of water & the depth at which water could be found in such soils. A boring party equipped with two power drills and twelve hand boring sets and the staff necessary to work them was sanctioned for a period of one year. A water diviner was also associated with the work for a period

of nine months with effect from the 12th March 1928 with a view to minimising the number of unsuccessful borings. Fourteen villages in the Bellary firka embracing an area of about 101 sq.miles were selected for the survey and it was intended that borings should be put down at the rate of one for every quarter of a sq.mile.

3. The operations were actually started on the 28th March 1928 but in the initial stages the progress of the work was hampered by the prevalence of plague in most of the villages and by the difficulty experienced in recruiting labour to work the boring apparatus. During the period of nine months in which the water diviner was engaged, he selected 107 sites as suitable for borings in eight villages viz.,(1) Bisalahalli (2) Beevanahalli (3) Haddinagunda (4) Sanganakal (5) Sridaragada (6) Gonahalle (7) Kolagal (8)Bellary. In addition to the selection of sites, the water diviner has also marked out in Bisalahalli village and a portion of Sanganakal the direction of underground water courses as indicated by the divining rod and a map of these water courses has been prepared. A contour map showing the physical features of the area and also sections of underground strata indicating roughly the depth, inclination etc., of sub strata have been prepared by the surveyors attached to the party.

4. Of the 107 sites selected for boring, boreholes have so far been put down in 53 sites and fourteen borings are now in progress. The deepest boring put down so far is 165 feet and the total number of feet bored through is about 4,200 feet. With a few

of rice months with effect from the 16th June 1958 with a view to diminishing the number of unsuccessful borings. Thirteen villages in the Delary Tirka extra-city area of about 121 sq.miles were selected for the survey and it was intended that borings should be put down at the rate of one for every quarter of a sq.mile.

4. The operations were actually started on the 21st June but in the initial stages the progress of the work was hampered by the prevalence of plague in most of the villages and by the difficulty experienced in recruiting labour to work the boring apparatus. During the period of nine months in which the work dragged, he selected 107 sites as suitable for borings in eight villages viz.,(1) Bhadohari (2) Devanandi (3) Haddinagpura (4) Sangamner (5) Kilesapada (6) Gonandle (7) Kolegal (8)Belgi). In addition to the selection of sites, the water diviner has also marked out in Bhadohari village and portion of Sangamner the direction of underground water courses as indicated by the dividing rods and a map of these water courses has been prepared. A geological map showing the physical features of the area as well as sections of underground strata indicating generally the depth, inclination etc., of sub strata have been prepared by the surveyor attached to the party.

4. Of the 107 sites selected for boring, borings have been put down in 61 sites and fourteen borings are now in progress. The deepest boring put down so far is 165 feet and the total number of feet bored through is about 2,200 feet. With a few

exceptions, all the boreholes have tapped water in a greater or less degree, varying from two to as much as fifteen gallons a minute, and considering the fact that the area comprising the survey suffers from great scarcity of water even for drinking purposes, a boring yielding even so little as one gallon a minute of drinkable water can reasonably be regarded as a success. The number of unsuccessful borings is about 10% per cent.

5. The survey conducted so far reveals that the whole area is underlain with hard granite rock below 30-40 feet. There is generally a mantle of disintegrated rock varying in thickness from 5 to 10 feet in which a certain amount of water is always found. The bed rock which is extremely hard is not fissured to any great extent and the water supply obtained therefrom is generally good and drinkable. The results obtained go to show that where the surface soil is typically jet black cotton soil, the water tapped underneath is always brackish but where it is lighterin colour and contains considerable quantities of gravel, the water found underneath is generally less brackish. If the soil is red or of light sandy colour or gravelly in substance, the water tapped therefrom is generally drinkable. It is possible that if a borehole is sunk sufficiently deep through bedrock and the surface water is shut out, drinkable water could be obtained even in blackcotton soil. This experiment is now being made. The results of the operations so far show that the subsoil conditions met with in several of the villages are more or less uniform except for undulations. Several samples of water obtained from the boreholes have been analysed bythe Principal, Leather Trades

Institute, and valuable data as to the quality of water and the depth at which water could be found under conditions prevailing in the Bellary District have been collected and in areas where geological conditions are more or less similar, these data may be considered to be of general application. As the result obtained so far are more or less uniform, I do not consider it necessary that the remaining villages not yet traversed by the water diviner should be surveyed, particularly as there is an urgent demand elsewhere for the drills which would be set free. I propose therefore subject to the approval of Government to terminate the operations as soon as borings have been put down, in the remaining 40 sites selected by the water diviner. The expenditure required in connection with this work can be met from the allotment for the current year for the District Engineering Branch..

6. The experience so far gained goes to show that in surveys of this nature, the association of a geologist with the survey party would obviate the necessity for borings on an intensive scale. As explained in my letter No.609-B/27 dated 4th Feb.1928 the geologi would indicate the existence, extent etc., of water bearing strata in the region to be surveyed. His observations could be checked by means of a comparatively small number of borings and definite data obtained in regard to the nature, depth, thickness and capacity of the water bearing strata in the region. Thus an extensive area could be surveyed at reasonable cost and within a reasonable time.

7. The final report embodying in detail the results obtained and the conclusions arrived at will be submitted on the completion of the work.

( ) 8/
P.W.D. 4.4.28
12.3.28 (K)

[illegible] to the quality of
[illegible] which water could be found under
[illegible] the Salary Restrict have
[illegible] where water possibilities exist
[illegible] similar, these data may be
[illegible] the [illegible] as the results
[illegible] so far [illegible] item, I do not
[illegible] that the remaining villages
[illegible] by [illegible] water should be sur-
[illegible], particularly [illegible] an urgent demand
[illegible] for [illegible] well should be met free. I
[illegible] therefore object to the [illegible] of
[illegible] to [illegible] the up [illegible] as soon as
[illegible] have been done, in the remaining 60 cities
selected by the [illegible]. The expenditure re-
quired connection with this work can be met from the
allotment for the current year for the District
Engineering Branch.

3. The experience [illegible] so far gained goes to show that
[illegible] ways of this nature, the association of a geolo-
gist with the survey party can obviate the necessity
[illegible] for [illegible] on intensive scale. As explained
[illegible] letter [illegible] the geologist
[illegible] and indicate the [illegible], extent etc., of water
[illegible] existing in the region to be surveyed. His observa-
tions [illegible] by means of a [illegible] comparatively
small number [illegible] results obtained in
regard to [illegible] nature, depth, thickness and capacity of
the water [illegible] strata in the region. Thus an extensive
[illegible] of number of [illegible] can be carried out within
a reasonable [illegible].

4. Additional [illegible] on geology [illegible] the results ob-
tained and the [illegible] which [illegible] will be submitted
[illegible] later.

Development department.

Report on sub-soil water surveys in Bellary.

C.No. 2526 III.

Dist Secretary

To Under Secretary.

During the Collectors' conference held at Ootacamund in July 1927 it was decided that the Industries department should undertake the survey of sub-soil water in the Rayadrug taluk of the Bellary district. The Director of Industries was accordingly ~~requested to~~ submitted proposals which were approved in G.O.No. 264 Dev., dated 13-2-1928. The Director, later, suggested that a geologist might be associated with the work but the proposal was negatived by Govt. in G.O.No. 448 Dev., dated 12-3-1928.

2. The Ceded Districts Irrigation Committee, 1926, recommended that irrigation from wells and streams by pumping with mechanical and electrical appliances should be developed as a State enterprise. The Govt. did not agree with this view but observed that the State should assist enterprising ryots in their endeavours to promote irrigation by mechanical means, and that before doing so it was essential to have an adequate and complete survey of the surface and sub-soil water supply. The Director of Industries was accordingly asked to submit proposals for conducting such a survey in the Ceded districts. The Director suggested that he would first under-take the survey of surface water but the Government asked him to submit proposals for a survey of the sub-soil water in the Ceded districts after receipt of the report of results of such a survey in the Bellary district.

3. The Director has now submitted a preliminary report on the experimental survey of underground water now in progress in the Bellary district and requests that the report may be placed before the Agricultural

Advisory Committee. It is not known why he desires the report to be placed before the Committee at this stage.

4. Dealing with sub-soil water surveys the Royal Commission on Agriculture, in para 280 of their report observed :-

> "We consider that a landholder is entitled to obtain from the Agricultural department sufficiently definite information to enable him to decide whether, if water is found at a certain depth and with a certain minimum discharge at the surface, it will pay him, in the local conditions of soil and of marketing facilities, to instal such a well. The department entrusted with the charge of pumping and boring operations should make detailed investigations with a view to the collection of this information. These investigations should include a systematic survey of the sub-soil water supplies."

The recommendation of the Commissiom based on the above is as follows:-

" The department entrusted with the charge of pumping and boring operations should . . . carry out a systematic survey of sub-soil water supplies."

5. For orders whether this report may be placed before the Advisory Committee as desired by the Director of Industries.

6). The Dir presumably wants the report to be placed before The Committee for information in connection with the Comm's recommendation about pumping and boring which was discussed at the last meeting

DAR 13.7.29. Cen 16.7.

A copy of the report has already been received and disposed of — vide ¶¶ 9-12 of Govt. letter 1089 dated 28/6/29.

A — I shall find the proceedings of the last meeting of the Ad. Committee

Thro' 4 Sec.

D

received if the Committee had asked for any
Sent to M. repeat of this nature. I think they had enough.
JD

To Asst Secy.

A copy of the minutes of the
meeting of the 15th June is submitted
below – flag (J). It is not however
Mine approved. final. The D.A. having suggested
some alterations and additions the
file has been submitted to him.
Sims app: this may perhaps be over until
minutes are finally approved.

I.e. may
JdR Perhaps the S./ recollects what
18/7/29 happened at the meeting. I don't
remember. See how this is connected
with the subject discussed

JdR
22.7. The minutes have been
finally approved. Please
see A on page 2 of the minutes
M 20/7/29

I have no remarks to add.

JdR
WS 23.7.

file with correspondence
& it is not to be put
forward 25/7/29

Resubmitted
SAB
19/8/29

The note appears to have been submitted by the
D.F. apparently because of the discussion at A.
on page 2 of the minutes at J. The D.F. was

not so far as I can recollect called on to submit a note to the committee. Perhaps he wishes now that the committee should be informed of the actual position. He may be consulted do. if this is his intention and if so - then orders may be taken for circulating the note to the committee.

22/8/49

To Under Secy.

a draft D.O. is submitted for approval.

Yah
23/8/49

Cu
24/8
26.8.49

Development department.

D.O.No. 2526 III/29-1, dated 12-9-29.

Dear Mr. Appadurai Pillai,

Your letter No. 609-B/28, dated 25th June 1929, forwarding a copy of a preliminary report on the experimental survey of unde ground water now in progress in the Bell district for being placed before the Agricultural Advisory Committee.

So far as I am aware no such note was called for from you. ~~Presumably you~~ could it be that you have sent it with reference to His Excel -lency's enquiry at the meeting of the 15 June whether immediately after the Indus -tries department had finished their work .n boring operations the Agricultural lepartment were stepping in and develop- -ing further the improvements effected by the former? ~~Will you please let me kno whether that is so?~~

Yours sincerely

Dpd. by Van

Dpr's. initl.

Date

To

M.R.Ry. Diwan Bahadur

A.Appadurai Pillai Avl., M.A.,

Director of Industries,

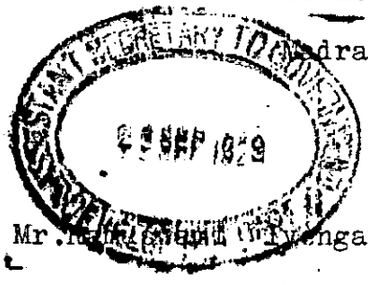
Chepauk.

Dev. 3729 14

24-9-29

O.No.609-B/28 Office of the Director of Indus

Madras, dated 20th September 19



Dear Mr. [illegible] Iyengar, 25 Sept

Your D.O.No.2526-111/29-1 dated 12 September 1929. I understand that the report was sent by Mr.Bazlullah at the request of certain members ofthe Agricultural Advisory Committee who expressed a desire that it should be placed before the committee

Yours Sincerely,

To,

M.R.Ry. R.Ramaswami Iyengar Avl.

Assistant Secretary to Government

Development Department.

Dev Dept.

To Asst Sec

Under Sec

For orders whether the note at pp 2-5 cf. as edited in pencil may be placed before the agricultural advisory Committee. There is nothing

on record regarding the statement
at A on p.b. supra!

RL
28/9.

I do not remember that any such request was made at the meeting. However there seems no objection to placing the note before the committee for information

28/9/29

It may be noted that the Secretary has already completed.

SVR
28/9

10 Under Secy.

The papers may be record. a draft order is submitted for approval.

The Dy's previous report was received recently: this report may similarly be filed with it.

28/9/29

RL
30/9.

To AS.

The papers may be sketched with file no. 1089 of 28/29.

RL